



DIRT
BIKE

YAMAHA UNLEASHES ITS RADICAL NEW SECRET WEAPONS:

'91 WR500 & WR200!

**ALL
COLOR
ISSUE!**

DIRT BIKE

WPS
34355

THE #1 AUTHORITY OF DIRT BIKES FOR OVER 20 YEARS!

'91 RACE TESTS:

- HONDA CR500
- SUZUKI RM125
- KTM 250MX
- ATK 406

**RIDING THE WORLD'S
FASTEST DR350!**

NOVEMBER 1990

\$2.50

CANADA \$3.00

UK £1.60

ATT'N RETAILER:
PLEASE DISPLAY
UNTIL NOV. 20



ISSN 0364-1546



**DUAL-
SPORT
SHOW-
DOWN:**

**DRS vs. XT vs.
KLR vs. XLV vs.
NX vs. HUNKY!**

WR200

BIKES

- 18 SUZUKI RM125
A different kind of sticker shock
- 30 YAMAHA WR200 & WR500
You knew. We knew. Now Yamaha delivers.
- 32 HONDA CR500R
Finally, mortals can ride Open class
- 36 ATK 406
Simplicity was never so complex
- 74 KTM 250MX
What's "Mint Condition" really mean?

COMPETITION

- 12 WILD & WOOLLY AT WASHOUGAL
National 125s: not for rookies only
- 56 THE FIVE FASTEST MEN IN AMERICA
Tall tales from the top 250-class riders

TECHNICAL

- 21 UNLOCKING THE RM125
Secrets even the factory doesn't know
- 40 THE TRUTH ABOUT COUNTERSHAFT
BRAKES Pros and cons from the pros
- 76 AUSTRIAN CUSTOMS
Tips for a well-behaved KTM 250MX

FEATURES

- 35 OFF-ROAD WITH THE CR500R
Firing Honda's big gun in the desert
- 46 DIRT BIKE'S DUAL-SPORT SCALE
Rating the 350-to-650cc D/S bikes
- 62 INSIDE THE ISDE DR350s
Suzuki's battle plan for taking Sweden
- 70 PROFESSOR HANNAH ON ENDUROS
You're never too fast to learn

DEPARTMENTS

- 8 FROM THE SADDLE
- 10 CHECKPOINT
- 12 BITS & PIECES
- 16 RIDERS WRITE
- 82 MR. KNOW-IT-ALL
- 94 RICK'S PITBOARD
- 98 NEW PRODUCTS
- 102 CRASH & BURN

ON THE COVER: Why didn't Jeff Ward win the 250 championship? He tells all on page 56, while Yamaha's new enduro surprises are on page 30. Wardy photo by Chris Hultner. Cover design by DeWest; separations by Valley Film.



WARNING: Much of the action depicted in this magazine is potentially dangerous. Virtually all of the riders seen in our photos are experienced experts or professionals. Do not attempt to duplicate any stunts that are beyond your own capabilities. Always wear the appropriate safety gear. *Dirt Bike* does all of its testing and photography legally on public land, or private land with permission from the owner(s), and we abide by the local laws concerning vehicle registration and muffler/spark arrester requirements. We are not responsible for quality of aftermarket accessories we use.

DIRT BIKE Magazine (ISSN 0364-1546), November '90, is published monthly by Daisy/Hi-Torque Publishing Company, Inc., with editorial offices at 10600 Sepulveda Blvd., Mission Hills, CA 91345. Subscriptions \$15.98 for 12 issues (one year). Canada add \$5 per year, and all other foreign add \$6 per year for additional postage. Copyright © 1990 by Daisy/Hi-Torque Publishing Company, Inc. All rights reserved. Nothing in this magazine may be reprinted in whole or in part, by mimeograph or any other means, without the express permission of the publisher. Contributors: Photographic submissions must be 5x7 or 8x10 glossy black and white, or 35mm and larger color slides. Please mark each photo with owner's name and address. Manuscripts should be typewritten. Unsolicited contributions, manuscripts, photographs and illustrations must be accompanied by a stamped, self-addressed envelope. Unless special arrangements are made in advance, all published material becomes the sole property of Daisy/Hi-Torque Publishing Company, Inc. The publisher does not assume responsibility for unsolicited material. Second class postage paid at San Fernando, CA 91340, and at additional mailing offices. POSTMASTER: Send address changes to *DIRT BIKE* Magazine, P.O. Box 9502, Mission Hills, CA 91395-9502. Printed in USA.



KEEPING IT SIMPLE

Refining the meaning of low maintenance

By The DIRT BIKE Staff

Fred eyed the battered Ford pickup pulling into the pits and watched the ATK owner proudly unload his new 1990 406MX. Needing some money for his entry for tomorrow's Grand Prix, Freddy's mind hit the rev limiter. Turning to Mikey, his riding partner, Fred challenged, "See that brand-new ATK over there? I'll bet \$10 that he's back in the pits in five laps or less with brake problems."

Mike, knowing that ATKs are built from the ground up to be low-maintenance sleds, figured that bet was a quick ten-spot in his pocket. "You're on," he said, trying not to sound too enthusiastic. The two wandered over to the bleachers as the ATK rider made his way onto the track.

The rider did a slow lap then started to pick up the pace a bit. Halfway into the second lap, he stalled the motor with too much rear brake. Fred chuckled, "Might as well give me that tenner right now."

"No way. The guy's just ham-fisted. He's just warming up to the new bike."

A half-lap later, Mr. ATK stalled again, then restarted. He picked up the pace another notch and put together two decent laps then blew through a berm and barely saved it from crashing. He looked at the countershaft-mounted brake a minute, slowly cruised back towards his truck and started spinning wrenches on the rear brakes.

"Ha—four laps! Cough up those ten clams, Mike, my man!"

"Hey—you must have ESPN or sump-thin', Freddy. Here."

Fred figured it was time for the *coup de grace*. "Don't take it so hard, Mikey. How about this? Bet ya that, by the end of his next practice session, his chain will be so loose it'll take all of the available adjustment to get it right. Double-or-nothing."

"That's a sucker bet, but I'll take it. That was my beer money you just took, and I want it back."

Sure enough, after nine laps, the chain was looser than a 7-1/4-inch helmet on a Pee-Wee. Fred and Mike sauntered over for a closer look as Mr. ATK prepared to tighten the chain. After he'd maxed out both A-Trak cam adjusters, the ATK rider started fishing through his toolbox for the set of offset axle spacers the ATK dealer had given him. Fred flashed a smile and his palm, into which Mike slapped another ten bucks.

Believe it or not, we've actually had these things happen on the first day with our '90 406. The banjo bolt on the rear caliper loosened from vibration, causing our brakes to go south. After the initial chain stretch, we had to change axle plates. Then, zilch. No maintenance, other than changing pads and routine tightening of motor-mount bolts.

This is good, but the initial problems can be disheartening to the new ATK owner who expects his tools to become covered with cobwebs before ever having to lay one on the air-cooled, linkageless ATK.

HONING THE 1991 ATK 406MX

Each year the simplistic design of the Rotax-powered, American-built ATK gets honed to provide better performance with less maintenance. Last year the 406 got a new-generation flatslide Mikuni TMX carb, which lacks a pilot jet and allows total tuning with just the needle and main jet. Two mains and needles are supplied with each ATK sold. The '90 also got a new cast iron rear disc brake rotor, heat shields to eliminate fluid boiling, a new chain adjustment system within the A-Trak system and a frame with more narrow midsection. At mid-year they also introduced MX versions of their two- and four-stroke machines, with a super-slim tank, safety seat and steeper steering head angle.

For 1991, the ATK saw further motor and chassis mods:

- A new chromoly box-section swingarm features conventional axle adjustment in addition to the chain-adjustment capabilities of the A-Trak rollers. This improvement is threefold. First, it allows a greater spectrum of adjustability and gear selection. Second, and more important, it allows the ATK owner to lengthen or shorten wheelbase for wide-open or close-quarter combat. Third, for races where quick wheel changes are a must, the new system speeds removal and insertion of the axle. Keep the axle tight, though, or you'll bend the adjustment plates.

- A stronger chain guide keeps the O-ring chain in line when the ruts and rocks get brutal.

- Carbon metallic brake pads squeeze the countershaft-mounted rear brake and provide longer pad life than conventional organic or metallic pads. With time, the carbon is impregnated into the iron disc, supposedly making the disc brake system impervious

With around 10hp more than the stock Rotax 406 motor, the ATK can destroy berms like a full-on 500, but it's easier to ride and maintain. Light weight, a rock-solid chassis and short wheelbase make for a flickable Open-class sled.



1991 ATK 406MX

Engine type	Case-reed, air-cooled 2-stroke
Displacement	399cc
Bore and stroke	84.0mm x 72.0mm
Carburetion	38mm TMX Mikuni
Fuel tank capacity	2.3 gal. (XC 4.7 gal.)
Gearing	16/46
Lighting coil	Yes
Spark arrester	Optional
Green sticker legal in stock form	Yes, w/SA
Running weight with no fuel	221 lb.
Wheelbase	57 in. (1448mm)
Rake/trail	26°/4.8 in.
Ground clearance	13.5 in. (343mm)
Seat height	37 in. (940mm)
Tire size and type:	
Front	90/90 x 21 Pirelli Lagunacross
Rear	100/100 x 18 Pirelli Lagunacross
Suspension:	
Front	Inverted WP 4054, 11.8 in. (300mm) travel
Rear	A-Trak, WP aluminum piggyback, adj. comp./reb./prel., 13 in. (330mm) travel
Country of origin	U.S.A.
Suggested retail price	\$4290
Distributor/manufacturer:	
ATK Motorcycles, USA	
5430 Union Pacific Ave.	
City of Commerce, CA 90022	
(213) 722-8880	

to mud, water and dirt. The jury is still out on the long-term benefits of the counter-shaft-mounted rear disc (see sidebar), but the pads are a welcome improvement over last year and light-years ahead of the original ATK setup. A new disc guard is a welcome and stylish addition.

- Revised damping provides a more plush ride at both ends. In fact, the old-style, un-adjustable White Power forks are the best we have ever felt on an ATK, KTM or Husqvarna.

- Vibration is cut with a stronger head stay, which also strengthens the frame a bit.

- Porting in the over-square case-reed 399cc motor has been modified to provide a broader power spread, and new reeds boost throttle response and last longer.

- The muffler is two inches longer for less sound and more power output.

- Just like the Japanese and European offerings, the '91 ATKs get . . . Bold New Graphics! We're glad ATK resisted joining the Year of the Ugly Dirt Bike.

RIDING THE 1991 406

Handling is the ATK's main claim to fame. It stays laser-straight in the most gruesome whoops sections and carves like Zorro, but you have to adapt to it. With a tall seat height and comparatively slow-revving motor, the 406 doesn't like the cut-and-thrust, clutch-be-damned style of riding. It likes smooth arcs more than steering with the rear brake and the clutch. Despite the steep steering head angle, the bike does not swap or headshake, which is a testament to a solid chassis, the A-Trak system and a well-balanced suspension package.

Both ends of the ATK do a great job of soaking up anything thrown at it, from square-edged ripples to bottomless sand whoops to kickers on jumps. The old-style forks are the best White Power units we've ever felt, including the new-generation KTM WP units. The rear feels really good, due in part to the additional effective travel (13 inches minus 2-1/2 inches of sag) and ATK's revalved WP SuperAdjuster shock, but rebound is very light (we went to the hardest setting and still wanted more). It may be a hacked cliché, but the ATK works better as you go faster. Let off over a jump and it'll kick. Hit the same lip with the throttle pinned and it flies straight.

In fact, the whole machine is designed to work as a package at warp speed. Try a casual trail ride and you'll be somewhat put off by the tall seat height, vibration and lack

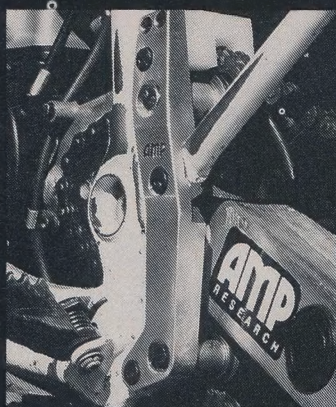
of a two-stage (power-valved) motor. The Rotax motor does have a decent spread of power, thanks to the ATK reed spacer and porting and the Mikuni carb, but it's still rooted in the late '70s, the era of disco and air-cooled motors. The bike comes on the pipe early and builds to a decent Open-class power rush on top, but it simply doesn't rev as quickly or run as smoothly in really slow turns as a '91 CR500R. On a hot day, the air-cooled 406 will start pinging on pump fuel. Until then, riding the bike is like riding a fast '85 YZ250 with a stuck power-valve.

Clutch action is fairly heavy and the Magura lever is too far from the bars for most people. ATK is planning on going to the newer adjustable perch that KTM uses, but ours didn't have one. The front brake is strong but requires a stronger pull than Japanese bikes, and the rear brake is too strong. It really takes initiation time to keep from stalling. Shifting is positive but a bit notchy. Starting is very easy and the choke is easier to find with a gloved hand than most Japanese bikes.

Maintenance, overall, is less intense than servicing power-valves or suspension linkages, but the air-cooled motor's jetting is more critical for crisp late-moto power than a liquid-cooler. You will never DNF due to a holed radiator, but inattention to jetting can give you the same push back to the pits. You also have to tighten the fasteners more frequently on the ATK, as it vibrates more than a KX or CR500. The tank-mounted airbox offers less working room for filter changes but is less prone to drown-outs in

BE FAST FASTER

Call for **FREE**
Magazine reprints and
suspension manual.



The AMP LINK - The hottest new product on the race circuit. Tested by Team Honda, Cycle World Magazine, Dirt Bike and Motocross Action. Easy 10 min. bolt-on device with no other modifications. Available for Honda CR 125, 250, 500; Kawasaki KX 125, 250, 500 and KDX 200.

New 7075 AMP Link
\$129.95

Works Spring Kit
with Preload Adjuster
\$69.95

for all USD & 43mm forks.



or COD

AMP
RESEARCH

"It's much easier to ride
so you can go faster."
-Dirt Bike

1855 Laguna Canyon Rd. • Laguna Beach, CA 92651 • Tel: 714/497-7525 • Fax: 714/497-0284

NOLEEN
RACING

Need help? Call us for: Fork Re-valve-\$85.00, Shock Re-valve-\$95.00, Oil change & service: Shocks-\$65.00, Forks-\$65.00. Also, we have Pipes, Porting, "O" fork oil, Rental sprockets, 360 Big Bore Kit, and lots more! Send \$3.00 for our new catalog & stickers.

**SUSPENSION EXPERTS
AND MUCH, MUCH, MORE!**



Authorized Official Yamaha Suspension Service Center
Exclusive Importer of Ohlins Products

241 E. Philadelphia #1 Ontario, CA 91764-7742 (714) 947-5773

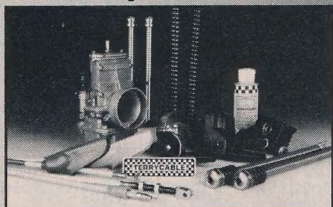
ÖHLINS
Suspension
SWEDEN



GET A GRIP ON CONTROL

**WITH TERRYCABLE
QUALITY PRODUCTS**

PRO CABLES are the world famous performance cables from Terrycable that are teflon lined for easy pull and are available in **FACTORY COLORS** to match your dirt bike or ATV. PRO CABLES are available for stock replacement along with special throttle cable applications for ATV twist throttles and big carburetor conversions.



PRO CABLES are \$12.50 each. Whirlpull and Magura twist throttle kits from \$11.00 to \$24.95. Also Mikuni carburetor kits, Magura hydraulic brake reservoirs, and Terry Front Fork Kits for improved damping and increased travel. **CALL NOW TO ORDER** or see your local dealer. Send \$2 for the latest Terrycable Catalog.



Terrycable

17376 Eucalyptus Street
Hesperia, CA 92345
TOLL FREE (800) 854-4691
in CA (619) 244-9351

ATK 406MX

really wet conditions—and yes, the '91 ATK 406 is easier to wrench on than the '90 model.

SO, WHO IS THIS BIKE FOR?

If you are of the mindset that the old ways are best, that railing the berm beats brake-sliding, that fins are more manly than flimsy radiators, that links belong only on golf courses, that the clutch is used only for shifting, then the ATK 406MX is your bridge between the old days and the present. It's a fast, great-handling, simple machine but it demands you adapt your riding style to its idiosyncrasies.

EXPERTS RATE THE COUNTERSHAFT BRAKE POINT/COUNTERPOINT

• *Horst Leitner, engineer and founder of ATK:* "The strongest advantage is that it's simple. You don't have a lot of moving parts or a long brake line with the countershaft-mounted disc brake. In the past, everyone had floating brakes so the suspension didn't have to deal with those forces but, because of the costs of anchoring the brake to the frame, they simply bolted calipers to the swingarm. Granted, full-floating brakes are costly and complicated, but mounting it on the front sprocket gives it the effect of being full-floating without any moving parts. You also eliminate the weight of the caliper and disc from the wheel, so the suspension can work that much better.

"Disadvantages are few. A lot of people say that there's more heat buildup with it on the countershaft. That's not the case; I've tested with both designs, using an infrared thermometer, and heat buildup is the same. To stop a bike, you have to turn so much kinetic energy into heat. It's the same no matter where the caliper and disc are or how fast the disc spins. With lighter weight you have less energy to dissipate, but the difference is negligible on a 220-pound dirt bike. The only disadvantages are that it's harder to change the front sprocket and your choices of calipers are limited. Let's face it—the Japanese calipers are pretty advanced, with heat shields and all, but few adapt to this system.

"I don't have any patents on the front-mounted disc because it's been done before. In the '60s Aerimacchi, the folks who made the Harley-Davidson dirt bikes, had countershaft brakes. They were bought out by Cagiva, which went on to win two 125 World Championships. The FIM then outlawed that system. Honda and KTM looked into using the design but dropped it because of the ban. ATK doesn't have to deal with the FIM, only the AMA, where it's legal."

Paul Thede, engineer and founder of Race Tech: "In the past ATK has had brake pad longevity problems, but I've heard they cured that. They also have a countershaft guard now. I've ridden ATKs without a



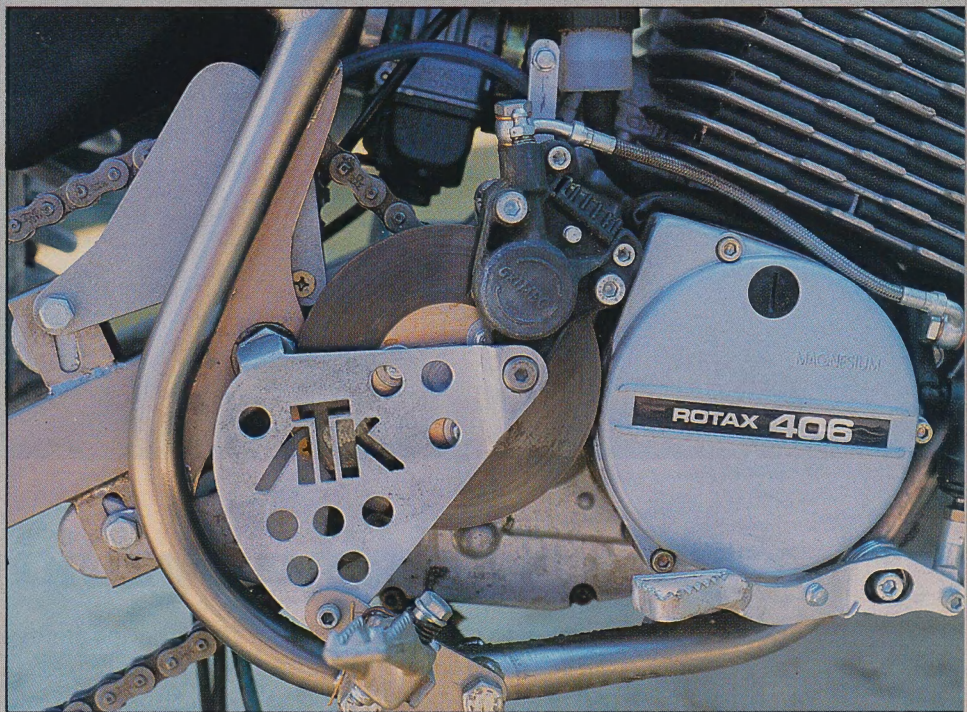
You can preload an ATK to get extra lift over jumps, to a certain extent. True, the chain doesn't load or unload the suspension, but ATK uses light rebound damping to give the bike extra "spring" effect. It'll kick if you don't hit jumps with throttle.

Countershaft-mounted disc brakes—are they as good as ATK says they are? To find the answer, we polled degreed engineers and leaders in the field of dirt bike technology. ►

guard and it really chewed on my boot. They've cured two problems, but there are still some drawbacks, as with any design. One is the possibility of getting chain lube on the disc. ATK uses O-ring chains, which do require lubrication, running right next to the disc. Two, if you do break a chain, you have no rear brake. Chain forces aren't as great with the A-Trak torque eliminator, but chain breakage is still possible, from a rock or whatever.

"Advantages are that it decreases unsprung weight and you have a full-floating brake, with the chain-torque eliminator. Other manufacturers have abandoned the full-floating brake theory in favor of simply attaching it to the swingarm, and you get brake chatter. The ATK achieves full-floating brakes without being truly full-floating, because the chain-torque eliminator isolates the suspension from chain forces.

"I'm not too keen on the trailing brake lever. It's good in that you don't have branches jamming in between the pedal and



engine case, and you don't have a two-foot-long brake hose to break, but it goes against current thinking. The optimum place to have a brake or shift lever pivot is at the leading edge of the footpeg, because that is where your foot pivots. It's not as big a deal with the brake, because you only press down. If you have someone press on the brake

while looking at it from the side, you'll see the pedal actually has to slide across your boot sole as your foot and the pedal pivot in different directions. When the boot and pedal are wet, it's no big deal, but if your boot and serrated pedal find traction, the feeling is notchy. The pedal wants to grab your boot, while you want to let off. □